



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,416	11/16/2001	Tooru Himori	34158	6837
116	7590	08/10/2005	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			HARVEY, DIONNE	
			ART UNIT	PAPER NUMBER
			2646	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,416

Applicant(s)

HIMORI ET AL.

Examiner

Dionne N. Harvey

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 2646

2. **Claims 1-26** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of **U.S. Patent No. 6,512,833**. Although the conflicting claims are not identical, they are not patentably distinct from each other because obvious wording variations.

For example, claim 1 of the immediate application recites the limitation of "a diaphragm", while claim 4 of **U.S. Patent No. 6,512,833** recites the limitation of "a diaphragm".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-8, 10,11,14-21, 23 and 24** are rejected under 35 U.S.C. 102(e) as being anticipated by **Une (US 6,594,369)**.

Regarding claims 1 and 14, in Une's discussion of what is well known in the prior art, shown in **figure 13**, Une teaches an electret condenser microphone for receiving an acoustic wave to be converted to an acoustic signal indicative of said acoustic wave, comprising: a casing member **5** having a center axis passing there-through; Une teaches an inlet portion **21**, and in **figures 1B and 1D**, Une teaches that a circular or mesh-shaped inlet portion may be employed; and in

Art Unit: 2646

column 1, lines 22-25, teaches that the casing is cylindrical, thus reading on "said casing member including a cylindrical side portion integrally formed with said inlet portion of said casing member"; One teaches that said side portion of said casing member **5** has a first section close to said inlet portion **21** of said casing member, and a second section **52** remote from said inlet portion **21** of said casing member **5**, said second section of said side portion of said casing member being radially inwardly bent toward said center axis of said casing member;

a printed circuit board **29** in the form of a circular shape and disposed in said casing member **5** to be held in contact with said second section **52** of said side portion of said casing member **5**, said casing member and said printed circuit board **29** collectively forming a cylindrical casing space (***see that space which is defined between the top 52 of the casing and the PCB 29***);

an electrode plate **6** accommodated in said casing space of said casing member **5**;

a plurality of electrically connecting members **81,82** intervening between said printed circuit board **29** and said electrode plate **6** to have said printed circuit board and said electrode plate electrically connected with each other; **figure 13** illustrates that the electrical connecting members **81,82** are disposed off-center with respect to the printed circuit board, thereby reading on "said electrically connecting member being partially disposed on and along the circumference of said printed circuit board", as broadly claimed;

and a diaphragm **4** located between said inlet portion **21** of said casing member **5** and said electrode plate **6** to be spaced apart via **61** along said center axis of said casing member from said electrode plate at a predetermined space distance.

Regarding claims 2 and 15, Une teaches that a dielectric member **27**, well known in the art as having insulating characteristics, is provided in the casing space, thus reading on “an electrically insulating member accommodated in said casing space of said casing member and provided on said printed circuit board, in which said electrode plate is mounted on said electrically insulating member and retained by said electrically insulating member.”

Regarding claims 3 and 16, Since the Applicant has indicated **160** in **figure 1** as providing diaphragm support, although the member **160** is disposed on top of the diaphragm, the Examiner cites film ring **41** as anticipating the “diaphragm supporting member” of the claim, being accommodated in said casing space of said casing member and supported by said inlet portion **52,21** of said casing member, in which said diaphragm **6** is mounted on said diaphragm supporting member **41** and supported by said diaphragm supporting member.

Regarding claims 4 and 17, in **column 1, lines 29-31**, Une teaches a capacitance gap provided between the electrode and diaphragm via spacer **61**, thereby reading on “an electrically insulating spacer” intervening between said electrode plate and said diaphragm to have said electrode plate and said diaphragm spaced apart from each other at said predetermined space distance.

Art Unit: 2646

Regarding claims 5 and 18, in **column 7, lines 33-36**, Une teaches that it is beneficial to provide a covering member on the inlet portion of said casing member.

Regarding claims 6 and 19, in **column 1, lines 29-31**, Une teaches a capacitance gap provided between the electrode and diaphragm via spacer **61**, thus reading on "said electrode plate and said diaphragm collectively constitute a capacitor unit to generate an electrical capacitance corresponding to the space distance between said electrode plate and said diaphragm under the state that said acoustic wave is transmitted to said diaphragm to have said diaphragm partly oscillated along said center axis of said casing member with respect to said casing member."

Regarding claims 7 and 20, Une teaches a signal converting unit **8** for converting said electrical capacitance generated by said capacitor unit to said acoustic signal indicative of said acoustic wave transmitted to said diaphragm.

Regarding claims 8 and 21, Une teaches that the signal converting unit **8** is accommodated in said casing space of said casing member and provided on said printed circuit board **29**, by way of mounting it above member **27**, which is mounted above the PCB, to be electrically connected to said electrode plate and said diaphragm, respectively **via 81 and 82**.

Regarding claims 10 and 23, Une teaches that the diaphragm member is an electret material; in **column 6, lines 33-35**, teaches that use of a vibration film for the diaphragm is well known in the art; and further teaches an electrode spaced therefrom, thus reading on "said electrode plate **[6]** has thereon an

Art Unit: 2646

electret film **[4]** opposing and spaced apart **[via 61]** along said center axis of said casing member from said inlet portion of said casing member.”

Regarding claims 11 and 24, Une teaches, in **column 1, lines 24-25**, a diaphragm made of electret material, and in **column 6, lines 33-35**, teaches that use of a vibration film for the diaphragm is well known in the art, thus reading on “said diaphragm is made of an electret film.”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 12, 13, 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Une (US 6,594,369)**.

Regarding claims 12,13, 25 and 26, In **figure 13**, Une does not clearly teach that the electrically connecting member is in the form of a column-shape or channel-shape, and wherein the first end surface is held in contact with said electrode plate, and said second end surface is held in contact with said printed circuit board .

However, in the embodiment of **figure 1A**, Une teaches that the electrically connecting member of a capacitor microphone may be constructed such that it includes a column-shape (***see the vertical portion of electrical***

Art Unit: 2646

connector 72) and a channel-shape (**figure 1A illustrates that electrical connectors are constructed as conductive paths**).

It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute to electrical connectors in **figure 1A** for the electrical connectors in **figure 13**, since the conductor **72** in **figure 1A** allows for a much thinner electrical connection between the electrode and PCB, thus aiding in decreasing the size of the microphone apparatus.

5. **Claims 9 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Une (US 6,594,369)** in view of **Eggert et al. (US 4,539,411)**.

Regarding claims 9 and 22, Une teaches that the signal converting unit includes a field-effect-transistor.

Une does not clearly teach that the signal converting unit also includes a chip capacitor and a resistor.

In **column 2, lines 4-14**, Eggert teaches a voltage stabilizer circuit which includes a circuit board, having a capacitor **13**, FET **32**, and resistor **33** mounted thereto. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Une and Eggert, providing a voltage stabilizer circuit for a microphone which would require no increase in the overall volume of the device. (**See column 1, lines 26-28.**)

Art Unit: 2646

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Isogami (US 5,727,759) teaches a condenser microphone arrangement.


Baba (US 5,097,515) teaches an insulating member.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N. Harvey whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


D.H.


SUHAN MI
PRIMARY EXAMINER